# United States Patent [19]

**Marshall**

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[54] **HEADBAND DEVICE FOR HOLDING FLASHLIGHT**


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[51] **Int. Cl.**[5] ..... **F21L 15/14**

[52] **U.S. Cl.** ..... **362/105;** 362/190; 362/191; 362/804

[58] **Field of Search** ..... 362/103, 105, 106, 157, 362/190, 191, 418, 804



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[57] **ABSTRACT**

A device for holding a miniature high intensity flashlight along the side of the person's head to direct the beam of light in a path vertically positioned at the line of sight of the individual wearing the device. The device includes an elastic strap with overlapping ends held together with VELCRO ® attachments with a tubular strap through which the body of the flashlight is inserted and held in position on the strap. The rear end of the flashlight is held with VELCRO ® attachment or a corrugated spring clip against an inclined bearing surface block holding the end of the flashlight away from the person's head and allowing the rear end of the flashlight to be fixed to the bearing surface of that block at any height.


**18 Claims, 2 Drawing Sheets**

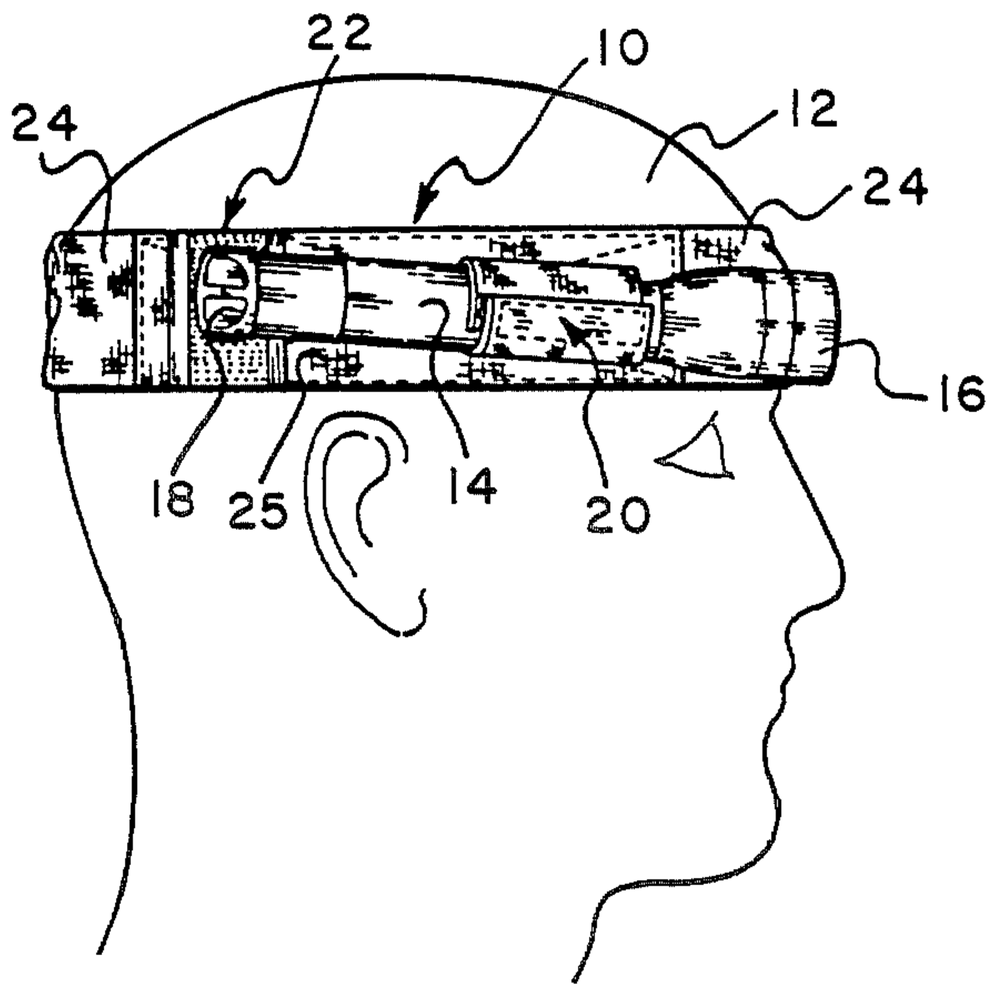


Fig. 1

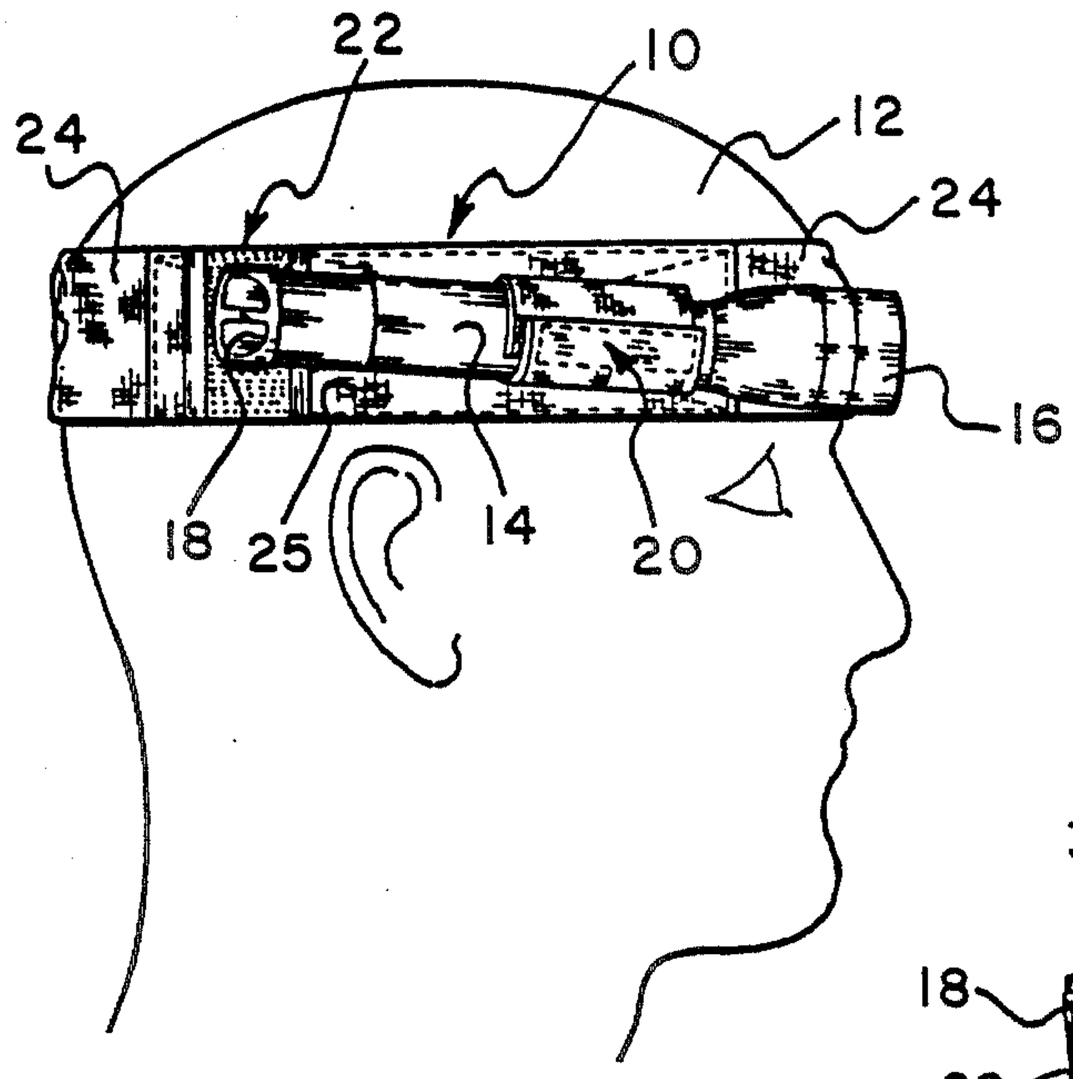



Fig. 2

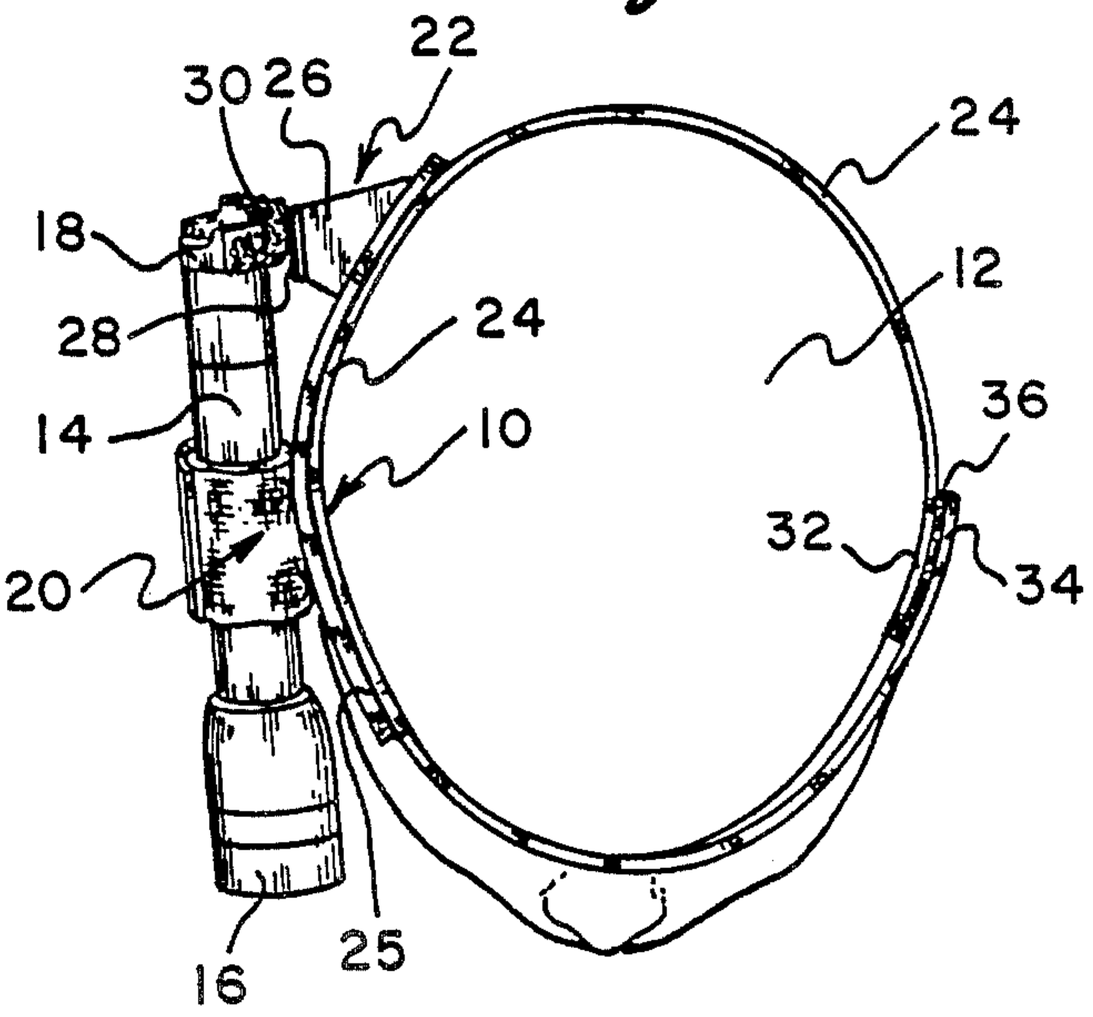



Fig. 4

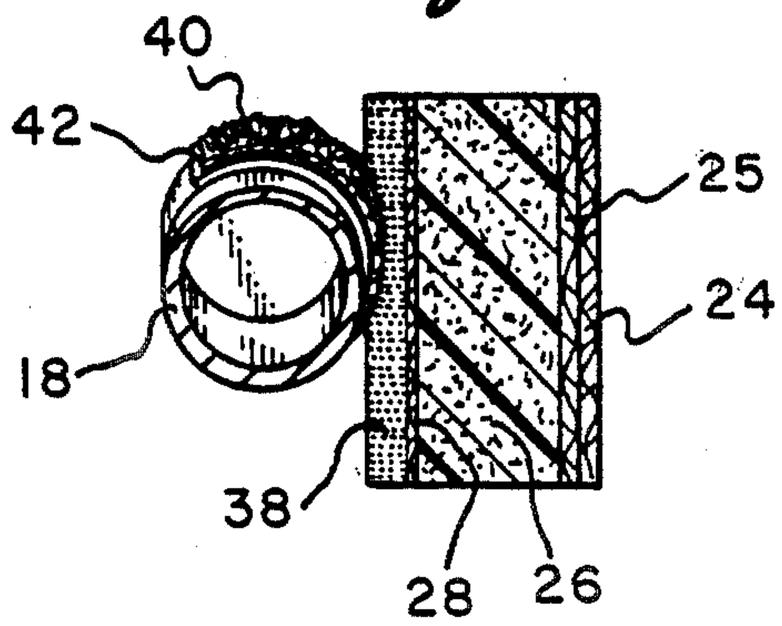



Fig. 3

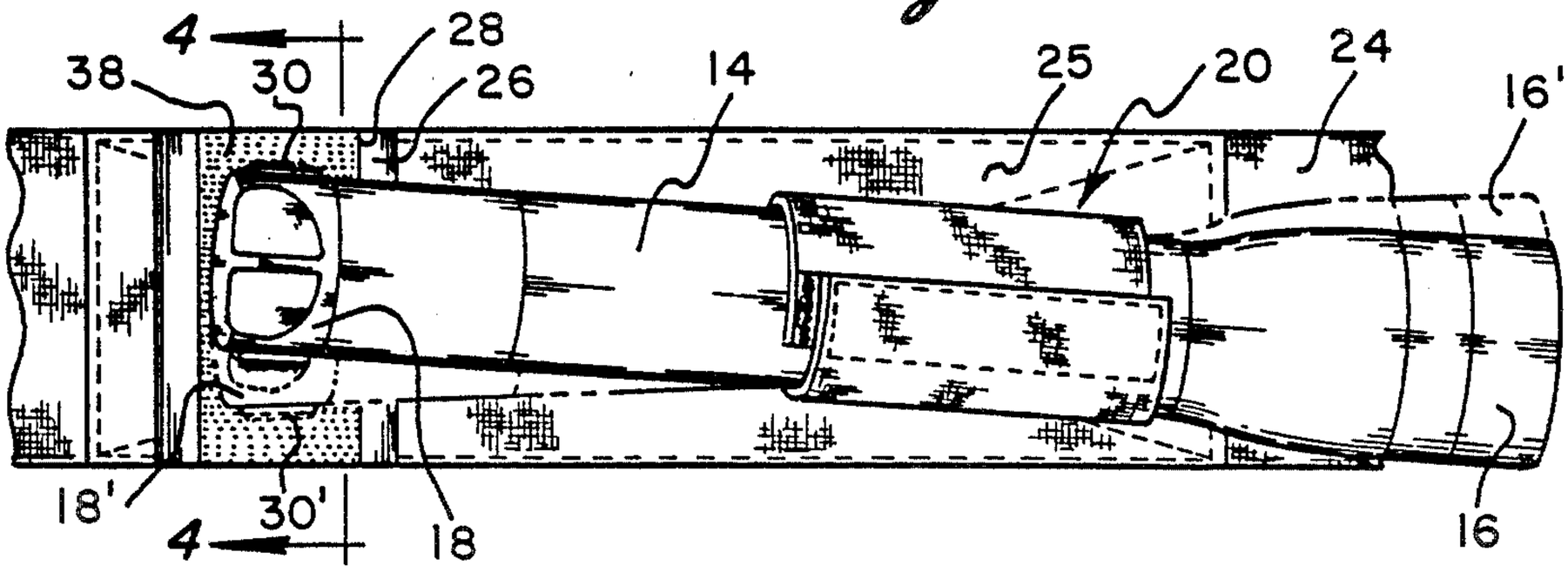


Fig. 5

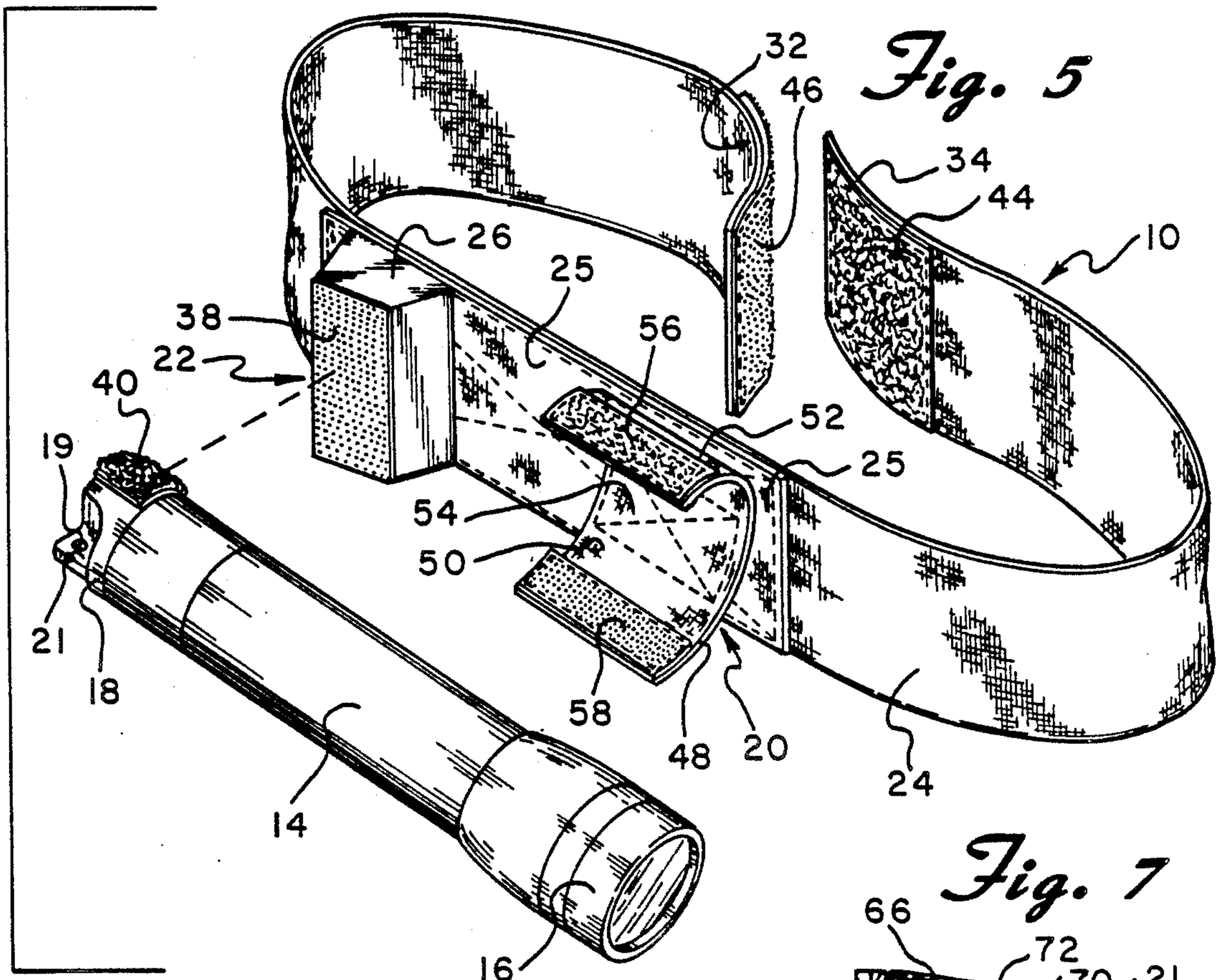



Fig. 7

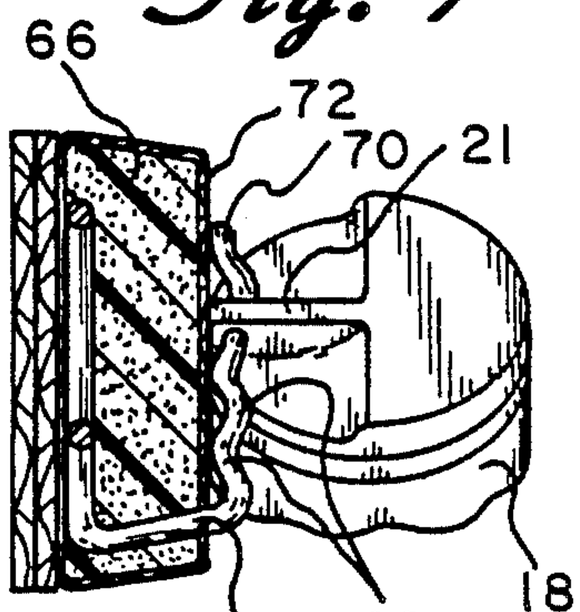
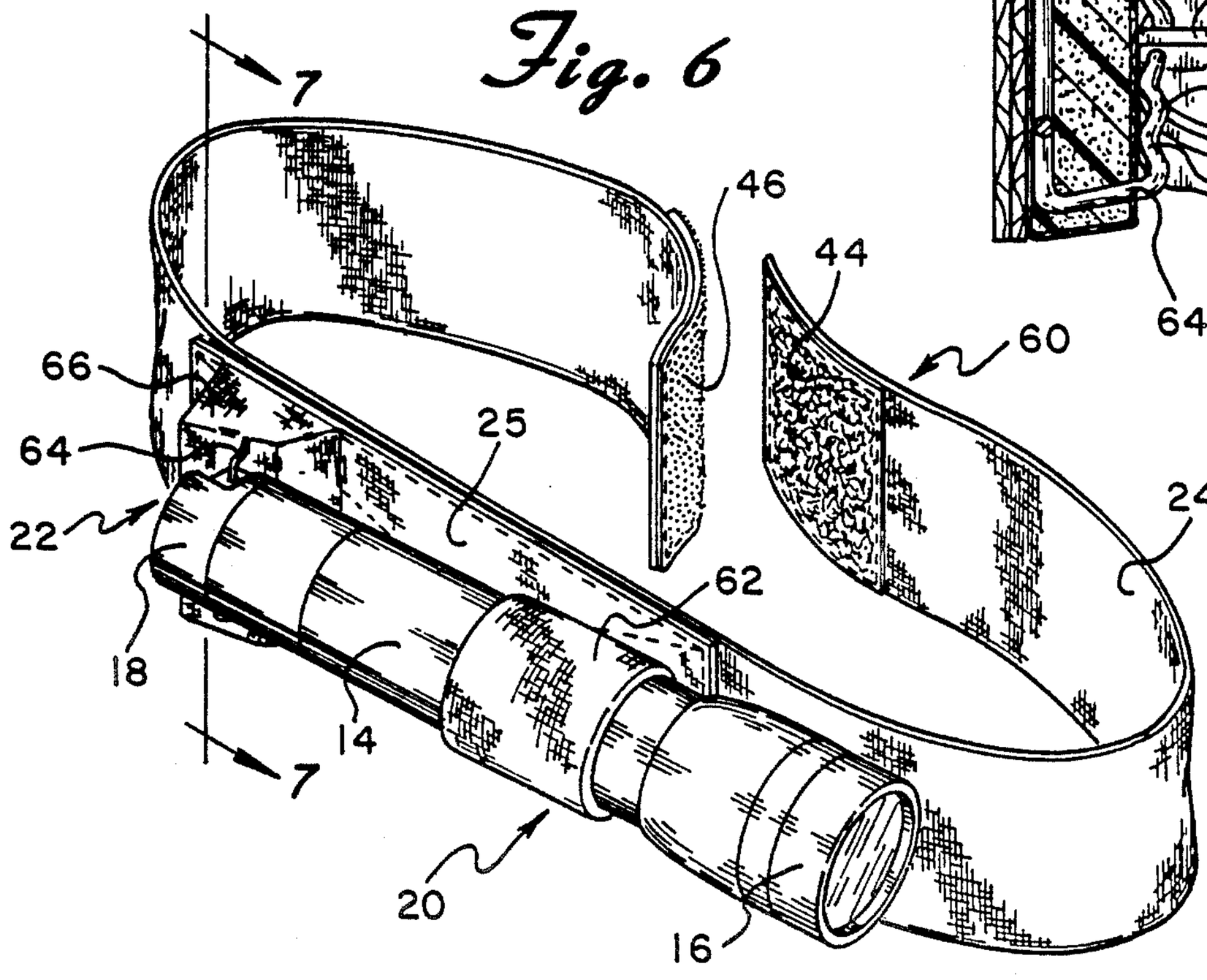



Fig. 6



# HEADBAND DEVICE FOR HOLDING FLASHLIGHT

## BACKGROUND OF THE INVENTION

This invention involves a device holding a small flashlight to the head of a person directing the beam of light along the line of sight of the individual.

It has long been a problem to provide light to a work site that a person can reach, without using one of the person's hands to hold the flashlight. Flood lights and even work lights on the end of a cord are difficult to support and direct the light in exactly the needed direction. While it is possible to provide light to a general area, it is difficult to avoid shadows caused by the person's head, body or even hands of the person carrying out the task. Various devices have been provided to hold flashlights to the head of the person doing the task. These have included lamps fixed to the forehead of the person by strap and have also included attaching small flashlights to the side of the head, above the ear of the person with the light beam directed generally forwardly.

These latter devices, typically direct the light in a line generally parallel with the line of sight of the individual. That type of device requires that the person tilt his or her head sideways in order to get the light to the proper point and then view the object of interest out of the corner of one's eyes. Further, these latter devices do not provide means for adjusting, fixing and holding the flashlight in any chosen direction in a vertical plane intersecting with the line of sight of the individual wearing the device.

These prior art devices do not satisfy these needs nor attain the objects described herein below.

## SUMMARY OF THE INVENTION

It is an object of the present invention to provide a device and method which will hold a common small cylindrical flashlight on a person's head to direct the light in any chosen direction within the field of vision of the person wearing the light.

It is a particular object of the present invention to provide a device which can allow the attachment and holding of flashlights of varying sizes to the head of a person with the ability to direct the light upwardly or downwardly in a plane to the chosen area of illumination.

It is an additional object of the present invention to provide a strap together with a holding device interfitting around the flashlight to hold it to the side of the head above the ear of the person, with the device including means to hold the rear of the flashlight away from the head and direct the beam of the flashlight toward the line of vision of the person looking straight ahead, rather than parallel to that line of vision.

It is a particular object of the present invention to combine the means to hold the rear of the flashlight away from the head to direct the light beam more directly toward the line of vision when the person is looking straight ahead and the means to adjust the direction of the flashlight beam upwardly or downwardly by attachment of the rear of the flashlight at various heights.

It is an additional object of the present invention to provide a device holding the flashlight above the ear of the person which securely fastens the rear of the flashlight at varying heights to adjust the angle of direction of the light beam emanating from the front of the flashlight.



This invention is a device to hold a flashlight on the head of a person. The type of flashlight includes a tubular body, a front end from which a beam of light is emitted and a rear opposite end. The device includes a strap to fit around the person's head and a first means to adjust the size of the strap to firmly hold the strap horizontally around the person's head above the person's eyes. The device further includes holding means on the strap to hold the flashlight to the strap in a generally horizontal position on a side of the person's head. The device also includes a member attached to the strap that includes an essentially vertical bearing surface facing away from the strap. The member is positioned rearwardly of the holding means a sufficient distance to allow the rear end of the flashlight to rest on the bearing surface when the flashlight is held in the holding means. The device further includes vertical adjustment means to hold the rear end of the flashlight in any chosen position vertically on the bearing surface of the member.

It is preferred that the strap be elastic and that the first means include two ends of the strap overlapping each other together with complimentary hook and loop fabric surface attachment swatches, such as Velcro swatches, attached on mating overlapping ends of the strap. It is also preferred that the holding means include a band having two ends and a median section, which is attached to the strap in a vertical alignment, and that the holding means further include complimentary hook and loop fabric surface attachment swatches attached on opposite sides of the band and on opposite ends of the band. It is also preferred that the member be a block of rigid flexible polymeric plastic foam and that the bearing surface be sloped frontwardly toward the strap in relation to the outside surface of the strap. It is further preferred that the member include a horizontal width sufficient to place the bearing surface a sufficient distance from the strap that the flashlight beam is focusable at a point on the line of sight of the person looking straight ahead. It is also preferred that the vertical adjustment means include a hook or loop fabric surface attachment swatch attached on the bearing surface of the member, and a complimentary hook or loop fabric surface attachment swatch attached on the rear end of the flashlight. It is further preferred that the flashlight include a projection from the rear end with a hole through the projection, and that the vertical adjustment means include a metal member formed in a corrugated pattern on one exposed end of a size and shape to interfit into the hole in the flashlight projection and further be attached in a vertical alignment to the member abutting the bearing surface. It is also preferred that member be attached to the strap rearwardly of the holding means a sufficient distance to allow the rear end of the flashlight to rest on the bearing surface when the flashlight is held in the holding means, and that the member include an essentially vertical bearing surface facing away from the strap member positioned a sufficient horizontal distance from the strap that the flashlight beam is focusable at a point on the line of sight of the person looking straight ahead.

The invention is also a method to hold a flashlight on the head of a person, the flashlight including a tubular body, a front end from which a beam of light is emitted and a rear opposite end. The method includes fitting a

strap around the person's head and adjusting the size of the strap to firmly hold the strap horizontally around the person's head above the person's eyes. The method further includes detachably attaching the flashlight to the strap using a holding means on the strap, the alignment of the flashlight being in a generally horizontal position on a side of the person's head. The method also includes resting the rear end of the flashlight on an essentially vertical bearing surface of a member attached to the strap rearwardly of the holding means, the position of bearing surface of the member being a sufficient distance to allow the rear end of the flashlight to rest on the bearing surface while the flashlight is held in the holding means. The method further includes focusing the flashlight beam at a point on the line of sight of the person looking straight ahead, wherein the vertical bearing surface facing away from the strap member is positioned a sufficient horizontal distance from the strap to allow said focusing. The method also includes vertically adjusting the focus of the flashlight means by detachably attaching the rear end of the flashlight in any chosen position vertically on the bearing surface of the member.

It is preferred that the flashlight include a projection from the rear end with a hole through the projection, and the vertically adjusting the focus include attaching a metal member with a section formed in a corrugated pattern proximate an exposed end, the section being attached in a horizontal alignment abutting the bearing surface, and vertical adjusting further include interfiting the end and the section into the hole in the flashlight projection. It is also preferred that the vertically adjusting of the focus of the flashlight include attaching a hook or loop fabric surface attachment swatch attached on the rear end of the flashlight to a complimentary hook or loop fabric surface attachment swatch on the bearing surface of the member.

## BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a right side elevational view of a device of the present invention secured on the head of a person showing the side of the head with the flashlight held above the person's ear.

FIG. **2** is a top plan view looking down on the device attached around the person's head.

FIG. **3** is an enlarged elevational view of a cut-away section of the device illustrated in FIG. **1**, illustrating the adjustment of the direction of vertical adjustment in the beam direction of the flashlight using the device.

FIG. **4** is a cross-sectional view taken along lines **4—4** of FIG. **3**.

FIG. **5** is an exploded perspective view of the device illustrated in FIGS. **1** and **2** showing the flashlight removed from the device.

FIG. **6** is a perspective view of a second embodiment of my invention with a flashlight held thereon.

FIG. **7** is a cross-sectional view taken along lines **7—7** of FIG. **6**.

## DESCRIPTION OF PREFERRED EMBODIMENTS

In FIG. **1**, device **10** is shown attached to a person's head **12** above the eyes and above the ear of the person. Flashlight **14** is a standard cylindrical high intensity flashlight of miniaturized design, typically of a length about three to seven inches long and being powered with either "AA" or "AAA" sized batteries. Flashlight **14** includes front end **16** from which the light beam emanates and rear section **18** which usually includes a screw threaded cap for removal and replacement of batteries. Device **10** includes elastic cloth strap **24** of sufficient size to encircle a person's head on which is attached holding device **20** which encircles and holds the body of flashlight **14**. Also attached to strap **24** is adjustment device **22** which not only holds rear section **18** of flashlight **14**, but also allows that attachment to be at different heights, thus allowing the vertical position of head **16** of the flashlight **14** to be vertically adjusted and the light beam held in any chosen direction. Both holding device **20** and adjustment device **22** are attached to reinforcement section **25** which is attached to strap **24**. Reinforcement section **25** is a nonelastic cloth patch sewn onto strap **24**. As further shown in FIG. **2**, rear block member **26** is a block of semi-rigid polymeric plastic foam adhesively attached to section **25** and extending outwardly from the strap and from the head of the person wearing the strap in a horizontal direction. This distance and shape of block **26** is sufficient to place vertical bearing surface **28** at a position away from the strap and away from the head of the person wearing it, such that rear end **18** of flashlight **14** is held away from the head a sufficient distance to aim the flashlight beam in a vertical plane to intersect the line of vision within arm's length of the person wearing the device when the person is looking straight ahead. This allows the beam to directly illuminate a work site which can be reached by the person wearing the device. Loop VELCRO ® swatch **30** is adhesively attached around a side of rear end **18** of flashlight **14**. Swatch **30** detachable attaches to hook VELCRO ® swatch **38** adhesively attached to bearing surface **28** as shown in FIGS. **3** and **4**. Strap **24** also includes overlapping ends **32** and **34**, with the adjacent abutting surfaces of these overlapping ends being equipped with VELCRO ® attachment **36** which includes a hook VELCRO ® swatch on one surface and a loop VELCRO ® swatch on the other abutting end surface. The length of VELCRO ® attachment **36** is sufficient to allow for differing head sizes, which coupled with the elastic nature of strap **24**, provides for size adjustment and comfort. As shown in FIG. **3**, hook VELCRO ® swatch **38** is adhesively attached on bearing surface **28** on the outside of member **26**. Loop VELCRO ® swatch **30** adhesively attached around end **18** is mostly hidden in this view and is attached to surface **38** positioning end **18** somewhat upwardly on surface **28** thus directing front end **16** of flashlight **14** generally downwardly. The shadowed lines show the rear end of flashlight **14**, designated **18'** moved downwardly and attached through loop VELCRO ® swatch **30'** to a lower position on bearing surface **28** to hook VELCRO ® swatch **38**. This attachment of the rear end of the flashlight at position **18'** directs the front end **16'** of the flashlight in a somewhat upwardly direction. In FIG. **4**, the cross-sectional view shows the construction and attachment of the elements proximate the rear of section **25**. Reinforcement section **25** is stitchably attached to elastic strap **24**. Block member **26** is adhesively attached to the cloth of section **25** and hook VELCRO ® swatch **38** is adhesively attached on vertical bearing surface **28** of member **26**. Loop VELCRO ® swatch **40** is attached by two-sided adhesive strip **42** around the outside surface of the rear section **18** of flashlight **14**. Loop VELCRO ® **40** is then detachably attached at any position on the face of hook VELCRO ® swatch **38**.

As illustrated in FIG. **5**, end **32** of strap **24** is equipped with hook VELCRO ® swatch **46** while end **34** is equipped with loop VELCRO ® swatch **44**. The sides of strap **24** of attachment of the VELCRO ® swatches are chosen so that they abut each other when the ends are overlapped. Holding device **20** is constructed of cloth strap **48** with inside surface **50** and outside surface **52**, the latter being mostly hidden in this view. Outside surface **52** abuts the outside surface of reinforcement section **25** while inside surface abuts the barrel of flashlight **14** when strap **48** is wrapped around and is holding the flashlight. Median section **54** of strap **48** is stitchably attached to section **25** forwardly of the position of attachment of member **26** leaving free ends of strap **48**. These free ends overlap with the outside surface **52** being equipped on one end with loop VELCRO ® swatch **56** and the other end being equipped on inside surface **50** with hook VELCRO ® swatch **58**. Both of these VELCRO ® swatches are stitchably attached to the ends of strap **48**. In this embodiment, the barrel of flashlight **14** is placed on inside surface **50** with the ends of strap **48** encircling the body of the flashlight with VELCRO ® strips **56** and **58** abutting each other and attaching to each other to hold the flashlight in place.

Device **60** illustrated in FIGS. **6** and **7** is identical in many respects to that of device **10**. For the purposes of clarity, those parts of device **60** that are identical to that of device **10**, will be identified by the same number. Holding device **20** and adjustment device **22** of flashlight holding device **60** are each different from that of device **10**. In other respects, the devices are identical. Holding device **20** is constructed of elastic cloth tube **62** which is stitchably attached medially to section **25**. The elasticity and diameter of tube **62** is chosen such that the body of flashlight **14** will be held securely when end **18** of the body is inserted therein. Adjustment device **22** includes block member **66** which is very similar to that of block **26** except that it is covered with cloth adhesively attached thereon. Clip **64** is spring steel with a major portion embedded in block **66** with one end of it extending outwardly through bearing surface **72** and bending and extending generally parallel to the bearing surface a length to a terminal end. That length section **68** positioned parallel to bearing surface **72** is formed in a corrugated shape having a plurality of reverse bends. Terminal end **70** of section **68** is inserted through hole **19** best shown in FIG. **5** extending transversely through flange **21** that extends radially outwardly from rear end section **18** of flashlight **14**. With device **22**, end **18** can be adjusted and positioned at varying heights along the length of corrugated section **68** and held in position by the spring nature of clip **64** against bearing surface **72** of block **66**. In this way, the vertical direction of the beam of light emanating from front end **16** of flashlight **14** may be adjusted.

While this invention has been described with reference to the specific embodiments disclosed herein, it is not confined to the details set forth and the patent is intended to include modifications and changes which may come within and extend from the following claims.

I claim:

**1**. A device to hold a flashlight on the head of a person the flashlight comprising a tubular body, a front end from which a beam of light is emitted and a rear opposite end, the device comprising:

(a) a strap to fit around the person's head,

(b) first means to adjust the size of the strap to firmly hold the strap horizontally around the person's head above the person's eyes,

(c) holding means on the strap to hold the flashlight to the strap in a generally horizontal position on a side of the person's head,

(d) a support member attached to the strap comprising an essentially vertical bearing surface facing away from the strap,

wherein the support member is positioned rearwardly of the holding means a sufficient distance to allow the rear end of the flashlight to rest on the bearing surface when the flashlight is held in the holding means, and

(e) vertical adjustment means to hold the rear end of the flashlight in any chosen position vertically on the bearing surface of the support member.

**2**. The device of claim **1** wherein the first means comprises that the strap is elastic.

**3**. The device of claim **1** wherein the first means comprises two ends of the strap overlapping each other and complimentary hook and loop fabric surface attachment swatches attached on mating overlapping ends of the strap.

**4**. The device of claim **1** wherein the holding means comprises:

(a) a band having two ends and a median section, which is attached to the strap in a vertical alignment, and

(b) complimentary hook and loop fabric surface attachment swatches attached on opposite sides of the band and on opposite ends of the band.

**5**. The device of claim **1** wherein the support member is a block of rigid flexible polymeric plastic foam.

**6**. The device of claim **1** wherein the bearing surface is sloped frontwardly toward the strap in relation to the outside surface of the strap.

**7**. The device of claim **1** wherein the support member comprises a horizontal width sufficient to place the bearing surface a sufficient distance from the strap that the flashlight beam is focusable at a point on the line of sight of the person looking straight ahead.

**8**. The device of claim **1** wherein the vertical adjustment means comprises:

(a) a hook or loop fabric surface attachment swatch attached on the bearing surface of the support member, and

(b) a complimentary hook or loop fabric surface attachment swatch attached on the rear end of the flashlight.

**9**. The device of claim **1** wherein the flashlight comprises a projection from the rear end with a hole through the projection, and the vertical adjustment means comprises a metal member formed in a corrugated pattern on one exposed end of a size and shape to interfit into the hole in the flashlight projection and the exposed end being attached in a vertical alignment to the support member abutting the bearing surface.

**10**. A device to hold a flashlight on the head of a person, the flashlight comprising a tubular body, a front end from which a beam of light is emitted and a rear opposite end with a projection from the rear end with a hole through the projection, the device comprising:

(a) a strap to fit around the person's head,

(b) first means to adjust the size of the strap to firmly hold the strap horizontally around the person's head above the person's eyes,

(c) holding means on the strap to hold the flashlight to the strap in a generally horizontal position on a side of the person's head,

(d) a support member attached to the strap rearwardly of the holding means a sufficient distance to allow the rear end of the flashlight to rest on the bearing surface when the flashlight is held in the holding means,

wherein the support member comprises an essentially vertical bearing surface facing away from the strap positioned a sufficient horizontal distance from the strap that the flashlight beam is focusable at a point on the line of sight of the person looking straight ahead, and

(e) vertical adjustment means to hold the rear end of the flashlight in any chosen position vertically on the bearing surface of the support member comprising a metal member formed in a corrugated pattern on one exposed end of a size and shape to interfit into the hole in the flashlight projection and the exposed end being attached in a horizontal alignment to the support member abutting the bearing surface.

**11**. The device of claim **10** wherein the first means comprises that the strap is elastic.

**12**. The device of claim **10** wherein the first means comprises two ends of the strap overlapping each other and complimentary hook and loop fabric surface attachment swatches attached on mating overlapping ends of the strap.

**13**. The device of claim **10** wherein the holding means comprises:

(a) a band having two ends and a median section, which is attached to the strap in a vertical alignment, and

(b) complimentary hook and loop fabric surface attachment swatches attached on opposite sides of the band and on opposite ends of the band.

**14**. The device of claim **10** wherein the support member is a block of rigid flexible polymeric plastic foam.

**15**. The device of claim **10** wherein the bearing surface is sloped frontwardly toward the strap in relation to the outside surface of the strap.

**16**. A method to hold a flashlight on the head of a person, the flashlight comprising a tubular body, a front end from which a beam of light is emitted and a rear opposite end, the device comprising:

(a) fitting a strap around the person's head,

(b) adjusting the size of the strap to firmly hold the strap horizontally around the person's head above the person's eyes,

(c) detachably attaching the flashlight to the strap using a holding means on the strap in a generally horizontal position on a side of the person's head,

(d) resting the rear end of the flashlight on a an essentially vertical bearing surface of a support member attached to the strap rearwardly of the holding means, the position of bearing surface of the support member being a sufficient distance to allow the rear end to rest on the bearing surface while the flashlight is held in the holding means,

(e) focusing the flashlight beam at a point on the line of sight of the person looking straight ahead, wherein the vertical bearing surface facing away from the strap is positioned a sufficient horizontal distance from the strap to allow said focusing, and

(f) vertically adjusting the focus of the flashlight means by detachably attaching the rear end of the flashlight in any chosen position vertically on the bearing surface of the support member.

**17**. The method of claim **16** wherein vertically adjusting the focus of the flashlight comprises attaching a hook or loop fabric surface attachment swatch attached on the rear end of the flashlight to a complimentary hook or loop fabric surface attachment swatch on the bearing surface of the support member.

**18**. The method of claim **16** wherein the flashlight comprises a projection from the rear end with a hole through the projection, and vertically adjusting comprises attaching a metal member with a section formed in a corrugated pattern proximate an exposed end, the section being attached in a horizontal alignment abutting the bearing surface, and vertical adjusting further comprises interfiting the section into the hole in the flashlight projection.

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